Chapter 3 Operations

This section explains how to begin using the scan tool's basic setup and test functions. This information is specific to Asian Import vehicles. For general scan tool functionality, see the user's manual appropriate to your diagnostic tool. Figure 3-1 outlines the general workflow of using the VCS software.

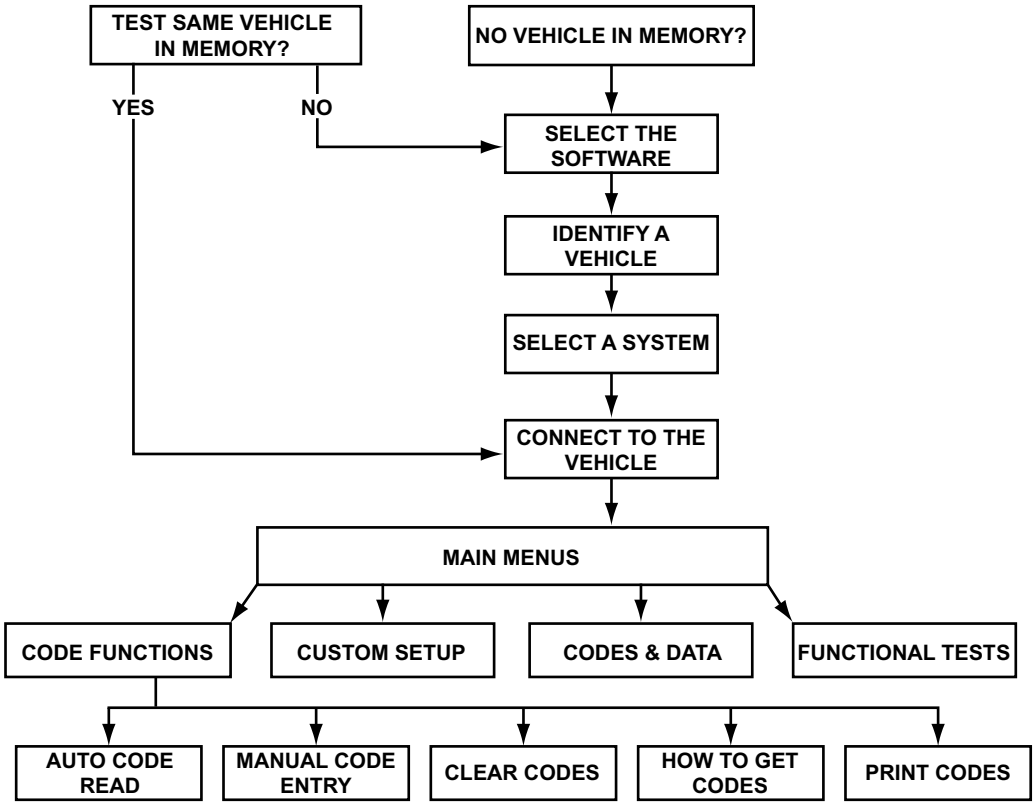

Figure 3-1 *Basic Asian Import scan tool test operation*

NOTE:
The exact order of test operation steps may vary depending on the test vehicle. Be sure to follow all on-screen instructions.

3.1 Selecting the Software

The first step in testing with the Vehicle Communication Software (VCS) is selecting the correct software for your test vehicle.

Two types of screens display when you turn on your scan tool:

- The **initial menu** (Figure 3-2) displays if you do not have a vehicle in memory.
- The **Current Vehicle ID screen** (Figure 3-3) displays if you have a vehicle in memory.

```
>GLOBAL OBDII
 DOMESTIC
 Asian
 European
```

Figure 3-2 *Initial menu*

```
Current Vehicle Identification Is:
VEHICLE: 2003 ACURA RSX
ENGINE: 2.0L L4 MFI (K20A2)
Press Y: For Same Vehicle N: For New ID.
```

Figure 3-3 *Sample Current Vehicle Identification screen*

To select the software from the initial menu:

1. Select **ASIAN** (Figure 3-2).
   The Year Range menu displays (Figure 3-4).

```
>1983 - 2005
 Legacy Software
```

Figure 3-4 *Year Range menu*

2. Select the year range for the test vehicle.
   The software loads for a moment and then the Software Confirmation screen displays (Figure 3-5).

```
>ASIAN IMPORTS (1983-2005)          V 6.4
```

Figure 3-5 *Sample Software Confirmation screen*

3. Press **Y** to confirm the software.
   The Manufacturer Selection menu displays (Figure 3-6).

```
SELECT MAKE:
>ACURA
 CHRYSLER IMPORTS
 DAIHATSU
```

Figure 3-6 *Sample Manufacturer Selection menu (2002-2003)*

To select the software from the Current Vehicle ID screen:

1. Press **Y** if you want to test the same vehicle, or press **N** if you want to test a different vehicle (Figure 3-5).

   If you pressed **Y**, the Connection Instructions screen or System Selection menu displays. See “Selecting the Software” on page 5 or “Connecting to the Vehicle” on page 8 to continue.

   If you pressed **N**, the Software Confirmation screen displays (Figure 3-7).

```
>ASIAN IMPORTS (1983-2005)          V 6.4
```

Figure 3-7 *Sample Software Confirmation screen*

2. Press **Y** to select the software displayed and go to the Manufacturer Selection menu (Figure 3-6). If you want to select different software, skip this step and go on to step 3.
3. Exit back to the initial menu and select the software as previously described.

To exit back to the initial menu from ASIAN IMPORTS (TO 2001) software (Legacy Software):

1. Press **Y**.

   The Manufacturer Selection menu displays (Figure 3-8).

```
SCROLL TO SELECT A MANUFACTURER
>ACURA (1986-2001)
 CHRY IMPORTS (1984-2001)
 DAIHATSU (1988-1992)
```

Figure 3-8 *Sample Manufacturer Selection menu (to 2001)*

2. Scroll to the end of the list and select **EXIT THIS MENU**.

   The initial menu displays (Figure 3-2).

To exit back to the initial menu from ASIAN IMPORTS (1983-2005) software:

- Press **N**.

  The initial menu displays (Figure 3-2).

3.2 Identifying a Vehicle

After you have selected the software, you are prompted to identify the test vehicle by entering vehicle identification number (VIN) characters and answering questions.

NOTE:
Because of midyear manufacturing changes in engine computer systems, you should always enter a new identification when you test a different vehicle, even when two vehicles are the same year, model, and have the same engine and accessories installed.

To identify a vehicle:

1. From the Manufacturer Selection menu (Figure 3-8), select the vehicle manufacturer. The first in a series of Vehicle Identification screens displays (Figure 3-9).

```
SELECT 10TH VIN CHARACTER
VIN: ---------3------
VEHICLE: 2003 ACURA
ENGINE:
```

Figure 3-9 *Sample Vehicle Identification screen*

2. Scroll and press **Y** to enter VIN characters, and press **Y** or **N** to answer any questions. When you are finished, a Vehicle ID Confirmation screen displays (Figure 3-10).

```
VIN: ---N-2---3------
VEHICLE: 2003 ACURA NSX
ENGINE: 3.2L V6 MFI (C32B1)
PRESS Y TO CONTINUE. N FOR NEW ID.
```

Figure 3-10 *Sample Vehicle ID Confirmation screen*

3. Press **Y** if the vehicle ID is correct or press **N** to identify a different vehicle. The System Selection menu or Connection Instruction screen displays.

3.3 Selecting a System

A System Selection menu prompts you to select which vehicle control system to test (Figure 3-11). Menus vary by manufacturer and model. Refer to the manufacturer-specific chapters of this manual for instructions on selecting a system to test.

```
SELECT SYSTEM:
>ENGINE                ANTI-LOCK BRAKES
 TRANSMISSION
```

Figure 3-11 *Sample System Selection menu*

3.4 Connecting to the Vehicle

A Connection Instruction screen tells you how to connect the supplied vehicle test adapters to the test vehicle you identified (Figure 3-12).

```
CONNECT OBDII ADAPTER WITH K2A TO 16-PIN
CONNECTOR UNDER GLOVEBOX.
NOTE!!  CYCLE KEY OFF TO ON.
 PRESS Y TO CONTINUE.
```

Figure 3-12 *Sample Connection Instructions screen*

Each test adapter plugs into a specific vehicle diagnostic connector and attaches to one end of the data cable. The other end of the data cable attaches to the scan tool.

The following adapters are available to connect the scan tool to Asian Import vehicles. See the manufacturer-specific chapters of this manual for connector locations.

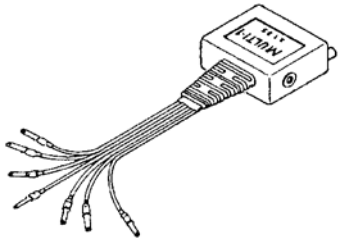

Figure 3-13 *MT2500-90 MULTI-1 adapter*

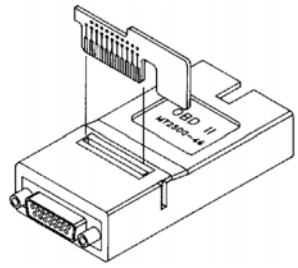

Figure 3-14 *MT2500-46 OBD-II adapter with Personality Key™*

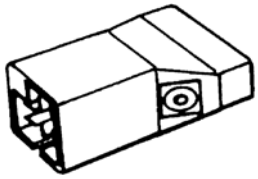

Figure 3-15 *MT2500-50 TOYOTA-1 adapter*

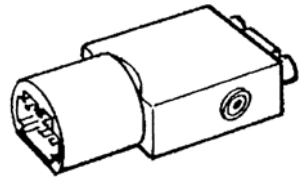

Figure 3-16 *MT2500-52 TOYOTA-2 adapter*
MT2500-53 MAZDA-1 adapter

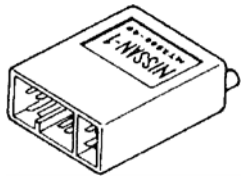

Figure 3-17 *MT2500-40 NISSAN-1 adapter (12-pin)*

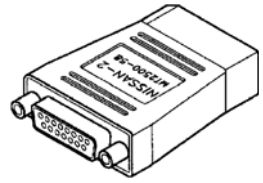

Figure 3-18 *MT2500-58 NISSAN-2 adapter (16-pin)*

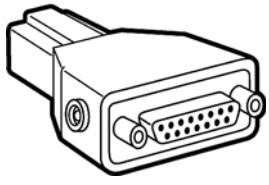

Figure 3-19 *MT2500-77 HON-1 adapter*

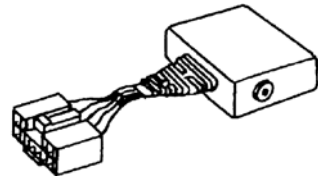

Figure 3-20 *MT2500-51 HYUNDAI-2 adapter*

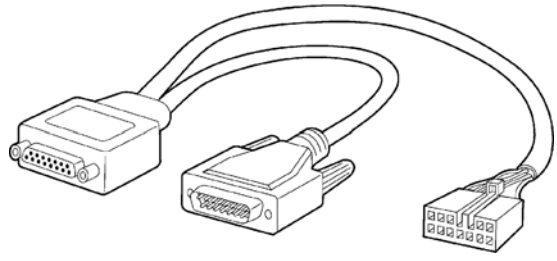

Figure 3-21 *MT2500-55 MITSU-1 adapter*

Figure 3-22 *MT2500-43 Terminal Converters*

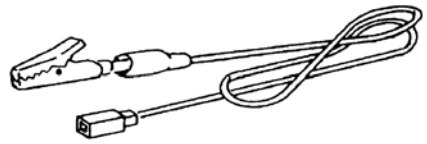

Figure 3-23 *MT2500-41 Ground adapter*

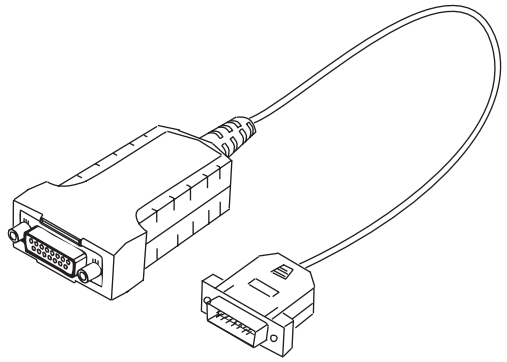

Figure 3-24 *CAN1B adapter*

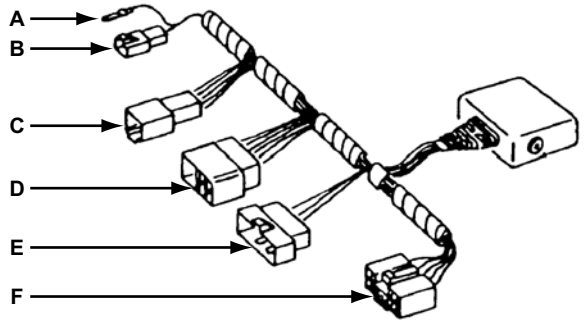

Figure 3-25 *MT2500-42 MULTI-2 Asian adapter*

A—Ground
B—Mazda & Ford (2E)
C—Isuzu & Geo with GM system (2D)
D—Subaru (2C)
E—Mazda & Ford (2B)
F—Special applications (2A)

To connect to a vehicle:

- Follow the on-screen instructions and press **Y** when you are finished. The main menu displays (Figure 3-26).

```
MAIN MENU              CUSTOM SETUP
>CODES & DATA MENU     MOVIES
 FUNCTIONAL TESTS
 ACTUATOR TESTS
```

Figure 3-26 *Sample main menu*

3.5 Main Menu Selections

Depending on the vehicle, the following main menu options may be available:

- **CODE FUNCTIONS** lets you read and interpret electronic control module (ECM) diagnostic trouble codes (DTCs).
- **CODES & DATA** lets you read input and output signals (switches, sensors, and actuators). See the manufacturer-specific sections of the manual for specific information.
- **CODES & DATA MENU** lets you access a submenu of tests on OBD-II vehicles.
- **FUNCTIONAL TESTS** provides specific subsystem and component tests. Tests vary by make and model, see the manufacturer-specific sections of the manual for specifics.
- **ACTUATOR TESTS** lets you check the operation of certain actuators, such as solenoid valves and relays. Tests vary by make and model, see the manufacturer-specific sections of the manual for specifics.
- **CUSTOM SETUP** lets you customize certain scan tool functions. See the manual for your diagnostic tool for details.
- **MOVIES** lets you record and view data. See the manual for your diagnostic tool for details.

3.6 Code Functions

Selecting CODE FUNCTIONS displays the Code Functions menu (Figure 3-27).

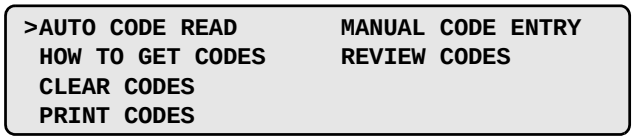

Figure 3-27 *Sample Code Functions menu*

Depending on the vehicle type, six primary CODE FUNCTIONS selections may be available:

- **AUTO CODE READ** reads all available electronic codes automatically (Figure 3-28).
- **HOW TO GET CODES** helps you to locate the test connectors or code lamps for getting codes, and helps you identify the code type.
- **CLEAR CODES** clears (erases) trouble codes from the vehicle ECM memory.
- **PRINT CODES** prints selected trouble code definitions.
- **MANUAL CODE ENTRY** lets you read codes that can be identified by visual observation of a flashing lamp (LED) and manually entering data into the scan tool (Figure 3-28).
- **REVIEW CODES** lets you review codes stored in scan tool memory, either through automatic code reading or manual code entry.

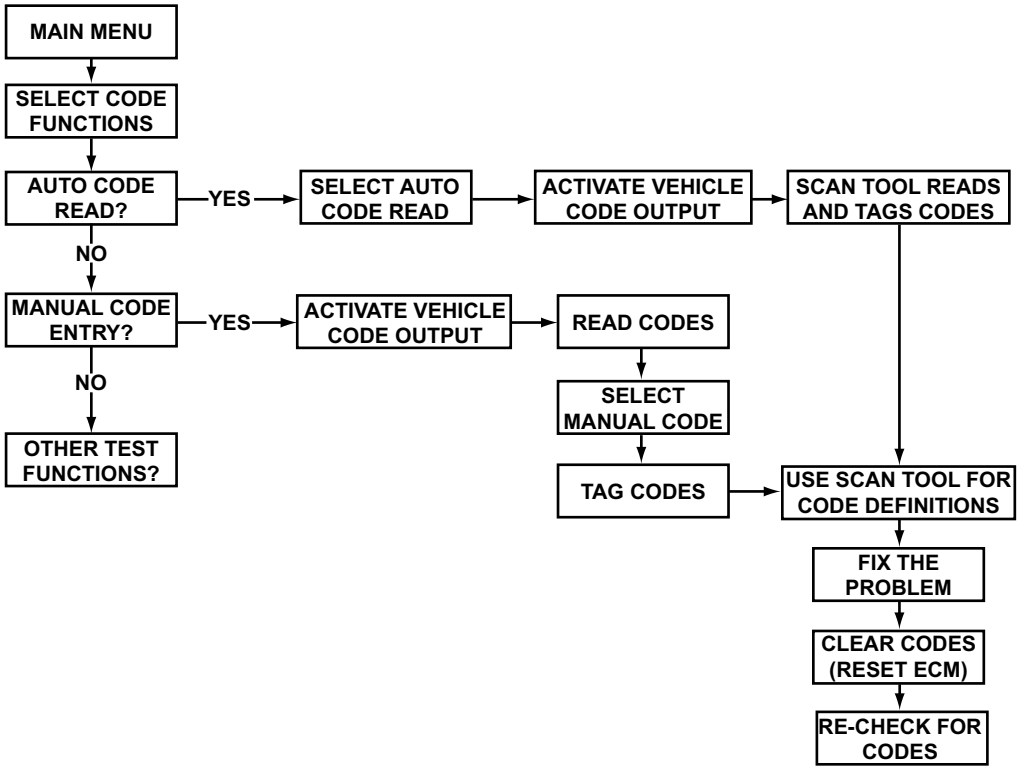

Figure 3-28 *Basic Code Functions: Auto Code Read and Manual Code Entry*

3.6.1 Reading Different Code Types

Depending on the vehicle, the diagnostic connector may have automatic code reading or you may have to read codes by observing a flashing lamp (LEDs). After you enter the vehicle ID, the scan tool tells you which type of system is on the vehicle you are testing. MANUAL CODE ENTRY is used when the AUTO CODE READ selection is not available or when you prefer to enter a code manually.

For vehicles with diagnostic connectors that have automatic code reading, connection instructions for code reading display at the end of the vehicle ID sequence. Instructions for activating flash codes are available by selecting HOW TO GET CODES (“How to Get Codes” on page 15).

Flash Codes

Different types of code pulse patterns are used by different manufacturers for different models. When a vehicle has indicator lamps (LEDs) that flash trouble codes, the scan tool gives you the code type used for the vehicle you are testing and key words to describe the type of code flashing pattern.

Five general code patterns are used:

- **Straight Count**—flashes the lamp or LED the number of times equal to the trouble code with a noticeable pause between multiple codes.

For example, eight equal flashes is Code 8.

- **Tens/Ones**—flashes a 2-digit trouble code with a noticeable pause between each digit. The first set of flashes is the 10s digit; the second set of flashes is the 1s digit.

  For example, FLASH-FLASH pause FLASH-FLASH-FLASH is Code 23.
- **Long/Short**—flashes a 2-digit trouble code with the 10s digit pulses staying on longer than the 1s digit pulses.

  For example, LONG-LONG pause SHORT-SHORT-SHORT is Code 23.
- **Main code and Sub-code**—main code will flash first, then pause. Sub-code will follow.
- **4-LED**—turns on one-to-four LEDs to display a binary code. The LEDs stay on until the code is cleared.
- **2-LED**—flashes a 2-digit trouble code with the 10s digit flashed on one LED and the 1s digit flashed on the other LED.

3.6.2 Automatic Code Reading

Selecting AUTO CODE READ from the Code Functions menu displays a screen like Figure 3-29.

```
INCOMING CODES:
WAITING FOR CODES   IF NO RESPONSE, TRY
INDUCING A CODE TO CHECK CODE GATHERING.
***END OF LIST***
```

Figure 3-29 *Incoming Codes screen*

If multiple codes are received, the scan tool continues to add to the list. Scroll to view the numbers and titles of all codes. Code numbers appear on the top line in the order in which the ECM transmits them (Figure 3-30).

```
INCOMING CODES: 11 14
SCROLL & PRESS Y TO DELETE CLEARED CODES.
>11 INTAKE AIR TEMP CIRCUIT PROBLEM
 14 ATMOSPHERIC PRESSURE SENSOR CIRCUIT
```

Figure 3-30 *Sample Auto Code Read screen*

LEDs flash simultaneously with the codes as they are received by the scan tool.

NOTE:
Some vehicles transmit codes very slowly. Allow several seconds after receiving any code to ensure that no more codes follow.

After you repair a problem or clear codes from the vehicle, the code numbers next to INCOMING CODES are removed. The individual lines with code numbers and titles remain on the AUTO CODE READ screen and in REVIEW CODES until you remove them manually.

To delete cleared codes:

1. Scroll to the line with the code that you want to remove.
2. Press Y to clear the code.

The code number and title are removed from the list. If the code has not been cleared from the ECM, the number remains on the top line.

3.6.3 Clearing Codes

The CLEAR CODES selection is available from the Code Functions menu after codes have been received. Selecting CLEAR CODES provides specific vehicle information for clearing ECM trouble codes (Figure 3-31).

```
TO CLEAR CODES, DISCONNECT BATTERY
GROUND CABLE.  DEPRESS & HOLD BRAKE
PEDAL FOR AT LEAST 5 SECONDS.  RECONNECT
BATTERY & RECHECK FOR CODES. [N TO EXIT]
```

Figure 3-31 *Clear Codes screen*

Trouble codes are often cleared by removing the battery ground cable or removing a fuse. In some cases however, the AUTO CODE READ function lets the scan tool clear codes automatically (Figure 3-32).

```
CLEAR CODES FROM VEHICLE MEMORY:
ARE YOU SURE?  PRESS Y OR N.
```

Figure 3-32 *Clear Codes Confirmation screen*

If you press Y, the scan tool displays the following message (Figure 3-33).

```
CLEAR CODES FROM VEHICLE MEMORY:
      CLEARING CODES . . . WAIT
PRESS N TO RESUME.
```

Figure 3-33 *Clearing Codes screen*

When all codes are erased, the display changes to the following (Figure 3-34).

```
CLEAR CODES FROM VEHICLE MEMORY:
      CODES ERASED FROM VEHICLE MEMORY
PRESS N TO RESUME.
```

Figure 3-34 *Codes Cleared screen*

NOTE:
If the vehicle ECM does not receive the code-clearing command, the CLEARING CODES... WAIT message stays on the screen indefinitely.

3.6.4 Printing Codes

See the manual for your diagnostic tool for information about setting up a printer.

3.6.5 Manual Code Entry

If you are testing a vehicle that can only display codes manually, you receive connection instructions from the Connection Instruction screen (Figure 3-35).

```
MANUAL CODES ONLY. FOR CODE LIST,
USE POWER PAC, OR USE MULTI-1 WITH
GROUND EXTENSION & EITHER POWER CABLE.
PRESS Y TO CONTINUE.
```

Figure 3-35 *Sample Connection Instruction screen for manual codes only*

Select HOW TO GET CODES from the Code Function menu to see on-screen instructions about reading manual codes from the vehicle you are testing.

3.6.6 How to Get Codes

Selecting HOW TO GET CODES gives instructions for observing codes manually or automatically, depending on the vehicle (Figure 3-36). The on-screen instructions are supplemented in the manufacturer-specific chapters of this manual.

```
FIND ECU BEHIND LEFT KICKPANEL.
TURN ECU SWITCH “ON”.  SEE MANUAL.
RED LED PULSES TENS DIGIT, GREEN PULSES
ONES.  CODE TYPE 07a.
```

Figure 3-36 *Sample How to Get Codes screen*

3.6.7 Reviewing Codes

The REVIEW CODES selection is only available on the Code Functions menu after the scan tool has received codes from a vehicle, either automatically or manually. Selecting REVIEW CODES displays a screen similar to Figure 3-37. Scroll to view all codes.

```
CODE SUMMARY: 12 22 23 31 55
      *****CODE DEFINITIONS*****
12 AIRFLOW METER CKT OPEN OR SHORTED
22 FUEL PUMP CIRCUIT PROBLEM
```

Figure 3-37 *Sample Review Codes screen*

3.7 Demonstration Programs

The Asian Import VCS contains a program that demonstrates many of the scan tool's test capabilities without actually connecting to a vehicle. A sample vehicle ID and mock test results are provided to familiarize you with scan tool menus and basic operations.

NOTE:
The DEMO selection appears at the end of the list of available manufacturers for 2001 and earlier vehicles only.

To access the demonstration program:

1. Select the software as described in "Selecting the Software" on page 5.
   The Manufacturer Selection menu displays (Figure 3-38).

```
SCROLL TO SELECT A MANUFACTURER
>TOYOTA
 OBDII GENERIC
 DEMO
```

Figure 3-38 *Sample Manufacturer Selection menu*

2. Select **DEMO**.
   A Vehicle Identification screen displays with "DEMO" in the first line, indicating that you are in the demonstration program (Figure 3-39).

```
SELECT 10TH VIN CHARACTER   DEMO
VIN: ---------V------
VEHICLE:
ENGINE:
```

Figure 3-39 *Asian demo Vehicle Identification screen*

3. Keep pressing Y to choose the defaults until the System Selection menu displays (Figure 3-40).

```
SELECT SYSTEM:
>ENGINE                ANTI-LOCK BRAKES
 TRANSMISSION
```

Figure 3-40 *System Selection menu*

NOTE:
If Troubleshooter software is installed, it will be accessible for demonstration purposes. Make sure you select the system that matches the Troubleshooter software. For example, if you have a Transmission Troubleshooter installed, make sure to select TRANSMISSION from the System Selection menu.